
U.S. Department of the Interior • U.S. Geological Survey

MINERAL INDUSTRY SURVEYS

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PRECIOUS METALS IN OCTOBER 1996

Domestic

U.S. mines produced 27,500 kilograms of gold and 131,000 kilograms of silver in October.

In an October 16 press release, Santa Fe Pacific Gold Corp., Albuquerque, NM, announced that it had received U.S. Bureau of Land Management (BLM) approval for the company's operations plan for the expansion of the Lone Tree gold mine, located southeast of Winnemucca, NV, allowing the immediate expansion of open-pit mining operations.

Newmont Gold Co. and Barrick Goldstrike Mines, Inc. announced in an October 22 news release that their dispute over water disposal on the Carlin Trend, NV, was settled. The agreement provides for a water treatment facility and conveyance system to be constructed by Barrick across Newmont property within Boulder Valley, south of the mining operations. Newmont has the right to use up to one-half of the discharge system in later years in exchange for payment of designated capital and operating costs. As a result of this agreement, Barrick will reimburse Newmont's legal costs and convey to Newmont a property contiguous to its Deep Star mine that is estimated to contain a resource of 4,700 kilograms (150,000 troy ounces) of gold.

International

In an October 30 press release, Monarch Resources Ltd. announced that its La Camorra gold mine in Venezuela reported higher gold production for the first 9 months in 1996 than for the same period in 1995. La Camorra's production cost was \$7.40 per gram (\$237 per ounce) for the first 9 months in 1996 compared to \$347 for the same period last year. The reduced cost is the result of improved operating efficiencies, and the favorable impact of the devaluation of the Venezuelan bolivar following the government's decision to lift exchange controls last April.

Golden Star has begun core drilling in southeastern Suriname near the border with French Guiana. A 26-hole, 2,600-meter drilling program is planned to evaluate the deeper mineral potential of the central and middle zones of upper Antino gold property.¹

A dispute has arisen regarding ownership of the Busang gold project in Kalimantan, Indonesia (*See Update section of Precious Metals MIS, December, 1995*). The disagreement now has extended to Australia as Golden Valley Mines NL, Perth, WA, Australia, reported that it had made an agreement with PT Krueng Gasui, the local Indonesian company at the center of the dispute. The dispute was originally the result of claims by PT Krueng Gasui, which holds 10% of the Busang I portion of the project, that it is also entitled to a 10% share in Busang II and III. Busang I, the original gold discovery, contains only 6% of the total gold resource of 1.46 million kilograms (47 million ounces) of gold currently estimated for the Busang project area.²

Update

In a November 14 news release, Santa Fe Pacific Gold Corp., Albuquerque, NM, announced that the new Sage mill at the Twin Creeks Mine, in Nevada, had started processing oxide ore. Approximately 160,000 to 190,000 metric tons of oxide ore, at an average grade of 2.5 grams of gold per ton, is expected to have been processed by the end of the fourth quarter of 1996, yielding about 310 to 470 kilograms (10,000 to 15,000 ounces) of gold. The Sage mill is part of a 4-year Twin Creeks sulfide expansion project, construction of which began in late 1994. This sulfide project, which included the addition of a larger capacity mining fleet in 1995, reportedly will enable Twin Creeks to process refractory ores that contain about 220 tons (7 million ounces) of gold reserves, approximately two-thirds of the total reserves at Twin Creeks.

In a November 14 press release, USMX, Inc. announced that it had decided to defer commencement of gold production at its Illinois Creek gold mine, in Alaska, until the spring of 1997. The company forecasts gold production of about 2,300 kilograms (75,000 ounces) at Illinois Creek in 1997.

Hecla Mining Co. will accelerate development of the Gold Hunter silver deposit near its Lucky Friday Mine in Idaho. More than 20 drill-hole intercepts into the main Gold Hunter vein have cored minable ore over a 3.7-meter width. Mining is expected to begin in 1997.³

Lihir Gold Ltd. projected 1997 gold production at 4,670 kilograms (150,000 ounces) from its rich gold deposit in Papua New Guinea. Commissioning of the facilities for the processing of oxide ore is scheduled for May 1997.⁴

In a November 8 news release, Freeport-McMoRan Copper & Gold Inc. (FCX), New Orleans, LA, announced that the Amole tunnel, which is being driven from a point near the mill into the Grasberg orebody, in Indonesia, has intersected the fringes of heavy sulfide "skarn-type" mineralization. The mineralization averaged 1.40% copper and 0.91 gram of gold per ton.

Cathedral Gold Corp. announced on November 28 that drilling work is underway at the Porcher Island gold project, 24 kilometers southwest of Prince Rupert, British Columbia. Current reserves at Porcher Island stand at 1.5 million tons grading 6.4 grams of gold per ton. Drilling and underground development are planned during 1997.

Royal Oak Mines intends to close its Hope Brook gold mine in Newfoundland near the end of 1997. The mill and mine equipment will be relocated to the company's Matachewan Project in Ontario, which the company expects to be producing 3,100 kilograms (100,000 ounces) of gold in the second half of 1998 at an estimated total cost of \$7.30 per gram (\$227 per ounce).⁵

In a November 12 press release, Echo Bay Mines Ltd., Englewood, CO, announced that it had increased its equity interest in Minefinders Corp. Ltd. to have the right to acquire 60% of the Dolores gold exploration property in the State of Chihuahua, Mexico. The C\$2.4 million transaction provides funding for continued exploration, contingent on positive results from the first phase of drilling.

First Dynasty Mines, Vancouver, British Columbia, has agreed to acquire the interest previously held by Bakyrchik Gold PLC, United Kingdom, in a consortium to explore and develop the Vasilkovskoye gold deposit in Kazakhstan. The Vasilkovskoye deposit has estimated minable reserves of 100 million tons grading 2.4 grams of gold per ton—equivalent to 220 tons (7 million ounces) of gold.⁶

In a November 18 news release, Delgratia Mining, Vancouver, British Columbia, reported that four extensive gold zones have been delineated from sampling of approximately one-half of the 160,000-hectare La Batea concession in central Nicaragua. The LaBatea concession adjoins Greenstone Resources' La Libertad Mine concession.

Hecla Mining Co., Coeur d'Alene, ID, and Santa Fe Pacific Gold Corp., Albuquerque, NM, have signed the final agreement to develop the Rosebud project, an underground, high-grade oxide gold deposit 50 miles west of Winnemucca, NV. The mine is slated to produce an average of 3,100 kilograms (100,000 ounces) of gold per year for 5 years. Initial production will begin in the second quarter of 1997.⁷

According to the World Council's latest *Gold Demand Trends*, world gold demand fell 3% during the first 9 months of 1996 compared to demand in the same period in 1995. Demand in developing countries in Asia, the Middle East, and Latin America set a new record; however, demand in the developed markets, including those in Japan, the United States, and parts of Western Europe, fell.⁸

¹The Northern Miner. Golden Star Aims Drills at Suriname. V. 82, No. 35, Oct. 28, 1996, p. 14.

²Mining Journal, London. Busang Dispute Widens. V. 327, No. 8400, Oct. 18, 1996, pp. 297-298.

³Engineering & Mining Journal. This Month In Mining. V.197, No. 11, Nov. 1996, p. 26.

⁴American Metal Market. Lihir Gold Project Makes Progress. V. 104, No.19, November 11, 1996, p. 5.

⁵Platt's Metals Week. Hope Brook Gold Mine to Close. V. 67, No. 45, Nov. 11, 1996, p. 10.

⁶Journal of Metals. Businessline. V. 48, No. 11, Nov. 1996, p. 8.

⁷Engineering & Mining Journal. This Month In Mining. V.197, No.11, Nov. 1996, p. 26.

⁸Platt's Metals Week. Gold Demand Down 3% on 1995 Levels:World Gold Council. V. 67, No. 47, Nov. 25, 1996, p. 1.

TABLE 1
MINE PRODUCTION OF RECOVERABLE GOLD AND SILVER IN THE UNITED STATES, BY STATE 1/

(Kilograms)

States	1995 2/	1995 p/				1996 p/		
		October	November	December	Jan. - Dec.	January	February	March
Gold:								
Arizona	1,920	231	235	233	2,780	236	229	178
California	26,200	1,520	1,940	1,730	20,200	2,110	1,940	2,210
Idaho	8,850	236	261	277	3,000	W	W	W
Montana	12,400	1,420	1,350	894	13,600	791	642	836
Nevada	213,000	19,000	20,200	19,900	222,000	15,400	16,000	17,400
Other States 3/	58,000	4,160	3,850	4,310	51,500	4,990	4,680	5,220
Total	320,000	26,600	27,800	27,300	313,000	23,600	23,500	25,900
		1996 p/						
	April	May	June	July	August	September	October	Jan. - Oct.
Arizona	161	168	117	119	158	228	224	1,820
California	2,250	2,170	2,210	2,080	1,880	1,920 r/	1,920	20,700
Idaho	W	W	W	W	W	W	W	W
Montana	968	959	703	987 r/	1,010 r/	968 r/	1,140	9,000
Nevada	16,400	18,100	17,500	19,000	19,300	18,500 r/	18,800	177,000
Other States 3/	5,040	4,860	4,960	4,990	5,250	5,580	5,440	51,000
Total	24,800	26,300	25,500	27,200	27,600	27,200 r/	27,500	259,000
		1995 p/				1996 p/		
	1995 2/	October	November	December	Jan. - Dec.	January	February	March
Silver:								
Arizona	220,000	15,900	15,600	16,700	172,000	14,900	16,500	13,100
California	12,700	996	1,220	1,200	12,100	1,460	1,440	1,520
Idaho	182,000	14,900	12,400	12,700	161,000	14,100	14,800	16,600
Montana	76,100	6,630	7,360	6,780	75,800	5,820	5,140	W
Nevada	766,000	56,200	49,000	54,800	653,000	42,700	42,600	44,000
Other States 4/	380,000	26,400	24,300	28,800	382,000	30,400	25,700	34,900
Total	1,640,000	121,000	110,000	121,000	1,460,000	109,000	106,000	110,000
		1996 p/						
	April	May	June	July	August	September	October	Jan. - Oct.
Arizona	14,700	15,200	12,100	13,700	13,600	12,900	12,600	139,000
California	W	1,990	1,570	1,990	1,470	1,330 r/	1,450	14,200
Idaho	11,300	16,700	16,300	15,700	15,700	15,700	15,700	153,000
Montana	W	W	W	W	W	W	W	11,000
Nevada	39,800	49,400	57,700	55,300	53,900	57,200	64,300	507,000
Other States 4/	40,100	34,500	39,800	38,400	45,800 r/	37,500 r/	36,500	364,000
Total	106,000	118,000	127,000	125,000	130,000	125,000 r/	131,000	1,190,000

p/ Preliminary. r/ Revised. W Withheld to avoid disclosing company proprietary data; included in "Other States."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes annual reporters.

3/ Includes Alaska, Colorado, New Mexico, South Carolina, South Dakota, Utah, Wisconsin, and State indicated by symbol "W."

4/ Includes Alaska, Colorado, Michigan, Missouri, New Mexico, New York, South Carolina, South Dakota, Utah, Wisconsin, and States indicated by symbol "W."

TABLE 2
SELECTED PRECIOUS METAL PRICES

(Dollars per troy ounce)

	Gold	Silver	Platinum	Palladium
<u>Engelhard Industries:</u>				
<u>1995:</u>				
<u>Year:</u>				
Low/date	373.68 (Jan. 09)	4.39 (Mar. 03)	404.00 (Mar. 02)	130.00
High/date	396.87 (Apr. 19)	6.02 (May 04)	462.00 (May 04)	179.00
Average	385.50	5.21	425.36	153.34
<u>1996:</u>				
<u>September:</u>				
Low/date	380.29/30	4.85/23	384.00/30	118.00
High/date	387.91/03	5.18/05	397.00/03	127.00
Average	384.27	5.01	390.50	123.10
<u>October:</u>				
Low/date	379.94/01	4.83/31	381.00/30	117.00
High/date	384.20/28	5.07/16	389.00/10	122.00
Average	382.36	4.94	384.70	119.39
<u>November:</u>				
Low/date	374.28/27	4.72/26	377.00/27	117.00
High/date	384.90/13	4.95/20	389.00/12	122.00
Average	379.76	4.84	383.58	119.42
<u>Year to date:</u>				
Low/date	374.28(Nov. 27)	4.72(Nov. 26)	377.00(Nov. 27)	117.00
High/date	391.06(Aug .05)	5.82 (Feb. 02)	433.00 (Feb. 05)	146.00
Average	390.89	5.23	400.41	131.35
<u>Handy and Harman:</u>				
<u>1995:</u>				
Average	384.22	5.19	XX	XX
<u>1996:</u>				
September	382.97	5.01	XX	XX
October	381.07	4.93	XX	XX
November	378.46	4.83	XX	XX
Year to date	389.52	5.22	XX	XX
<u>London Final:</u>				
<u>1995:</u>				
Average	384.16	5.22	XX	XX
<u>1996:</u>				
September	383.14	5.04	XX	XX
October	390.55	5.28	XX	XX
November	377.85	4.83	XX	XX
Year to date	389.39	5.24	XX	XX
XX Not applicable.				

Source: Platt's Metals Week.

TABLE 3
U.S. IMPORTS AND EXPORTS OF GOLD, BY COUNTRY 1/

(Kilograms of gold content, unless otherwise specified)

Country	Ores and concentrates 2/	Dore and precipitates	Refined bullion 3/	Total	Waste and scrap 4/ (gross weight)
Imports for consumption:					
1995:					
Year	5,020	9,820	111,000	126,000	14,400
1996:					
July	273	1,030	13,300	14,600	1,090
August	407	1,300	14,300	16,000	1,150
September:					
Brazil	--	--	2,280	2,280	--
Canada	1	440	5,550	5,990	134
Chile	--	--	550	550	31
Colombia	--	--	904	904	325
Dominican Republic	--	--	33	33	--
Mexico	186	478	716	1,380	112
Russia	--	--	10	10	--
Other	--	174	1,120	1,290	253
Total	187	1,090	11,200	12,400	855
Year to date	2,720	8,690	107,000	118,000	9,530
Exports:					
1995:					
Year	345	69,700	277,000	347,000 5/	74,700 5/
1996:					
July	13	7,370	19,200	26,600	6,090
August	54	4,670	33,200 5/	37,900	7,670
September:					
Belgium	--	--	--	--	88
Canada	34	2,980	203	3,220	4,790
France	--	--	--	--	1,190
Germany	--	--	505	505	400
Korea, Republic of	--	--	2,520	2,520	--
Switzerland	--	2,670	5,010	7,680	--
United Kingdom	2	2,950	--	2,950	914
Other	--	--	8,460	8,460	269
Total	36	8,600	16,700	25,300	7,650
Year to date	174	44,900	365,000	410,000	72,400

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes gold content of base metal ores, concentrates, and matte imported for refining.

3/ Bullion also moves in both directions between U.S. markets and foreign stocks on deposit in the Federal Reserve Bank. Monetary gold excluded.

4/ "Waste and scrap" not included in "Total."

5/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 4
U.S. IMPORTS AND EXPORTS OF SILVER, BY COUNTRY 1/

(Kilograms of silver content, unless otherwise specified)

Country	Ores and concentrates 2/	Dore and precipitates	Refined bullion	Total	Waste and scrap 3/ (gross weight)
Imports for consumption:					
1995:					
Year	225,000	395,000	2,630,000	3,250,000	2,140,000
1996:					
July	10,800	25,000	226,000	261,000	147,000
August	14,100	11,400	181,000	206,000	141,000
September:					
Canada	88	58	111,000	111,000	17,300
Chile	--	26,500	4,200	30,700	289
Germany	--	--	--	--	19,500
Malaysia	--	--	--	--	26,000
Mexico	9,900	1,240	66,000	77,100	4,130
Peru	--	11,300	25,000	36,300	--
Philippines	--	--	--	--	9,070
United Kingdom	--	--	--	--	30,900
Other	--	401	52	453	207
Total	9,990	39,500	206,000	256,000	107,000
Year to date	105,000	209,000	1,900,000	2,220,000	1,330,000
Exports:					
1995:					
Year	743	72,100	2,810,000 4/	2,880,000	1,580,000
1996:					
July	240	994	537,000	538,000	86,500
August	--	2890	284,000	287,000	111,000
September:					
Belgium	--	--	18,300	18,300	6,140
Canada	--	--	--	--	38,600
China	--	--	--	--	6,850
Germany	--	--	--	--	2,450
Japan	--	--	17,700	17,700	17,300
Sweden	--	--	--	--	19
Switzerland	--	430	167,000	167,000	2,900
Taiwan	--	618	--	618	--
United Kingdom	--	--	13,500	13,500	7,550
Other	34	171	94,100	94,300	2,570
Total	34	1,220	310,000	312,000	84,400
Year to date	795	33,000	2,390,000	2,420,000	1,010,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes silver content of base metal ores, concentrates, and matte imported for refining.

3/ "Waste and scrap" not included in "Total."

4/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS AND EXPORTS OF PLATINUM-GROUP METALS, BY COUNTRY 1/

(Kilograms of metal content, unless otherwise specified)

Country	Ores and concentrates	Waste and scrap (gross weight)	Refined					Osmium	Ruthenium	
			Platinum	Palladium	Rhodium	Iridium				
Imports for consumption:										
1995:										
Year	123	6,350	71,500 1/	124,000	9,600	1,450	69	7,520		
1996:										
July	--	263	7,020	5,360	747	54	18	618		
August	1,860	339	6,010	12,100	973	50	--	317		
September:										
Belgium	--	74	441	1,400	4	--	--	--		
Canada	--	18	43	219	--	--	--	--		
China	--	--	--	20	--	--	--	--		
Colombia	--	--	22	--	--	--	--	--		
Germany	--	16	283	220	23	--	--	--		
Japan	--	2	17	397	3	--	--	--		
Mexico	--	--	--	--	--	--	--	--		
Norway	--	--	31	148	--	--	--	--		
Russia	--	--	912	2,560	128	--	--	--		
South Africa	--	--	3,050	2,150	511	129	--	311		
Switzerland	--	--	340	1,100	--	--	--	50		
United Kingdom	--	499	697	184	1	43	--	277		
Other	--	135	40	30	--	--	--	--		
Total	--	744	5,870	8,420	670	172	--	638		
Year to date	1,960	4,000	54,200	79,400	7,100	1,220	329	11,600		
Exports:										
1995:										
Year	598	8,150	19,900	26,000	742	85 1/				
1996:										
July	8	670	1,220	1,870	7	19 1/				
August	13	802	693	2,530	23	8 1/				
September:										
Belgium	--	53	339	628	--	--				
Canada	--	1	17	94	--	--				
France	--	--	2	10	--	--				
Germany	--	62	78	37	--	--				
Hong Kong	--	--	4	--	--	--				
Ireland	--	--	1	12	--	--				
Japan	--	166	479	111	--	--				
Korea, Republic of	--	--	125	140	4	3 1/				
Mexico	--	1	4	247	--	--				
Netherlands	--	--	1	432	--	--				
Singapore	--	--	--	3	--	--				
Sweden	--	8	14	4	--	--				
Switzerland	15	--	--	37	--	--				
Taiwan	--	--	6	212	--	--				
United Kingdom	84	431	34	139	--	--				
Other	2	4	83	54	--	--				
Total	101	726	1,190	2,160	4	3 1/				
Year to date	294	5,980	10,100	18,700	171	89 1/				

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Of this amount 1,070 kilograms was in the form of platinum coins.

3/ Includes osmium and ruthenium.

Source: Bureau of the Census.